

1. (original): An ink-jet printing process for printing textile fibre materials, wherein the fiber materials are printed with an aqueous ink comprising

(I) at least one anionic acid dye, and

(II) dipropylene glycol,

said ink having a viscosity of from 5 to 20 mPa s at 25°C, and wherein

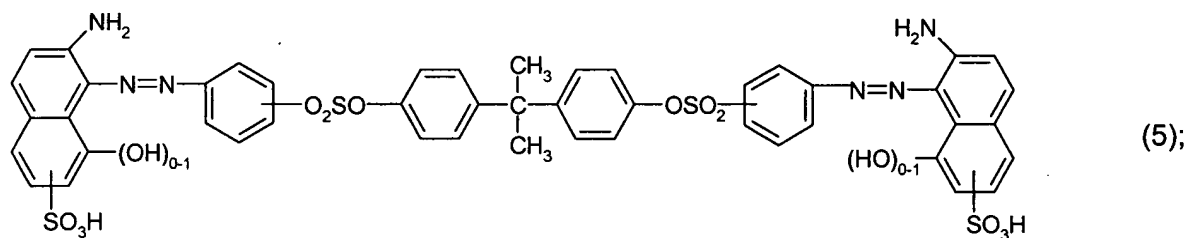
said ink is applied to the fiber material with an ink-jet print head comprising

an ink supply layer (b) receiving ink from an external ink reservoir, said ink supply layer having a first side and a second side and comprising, a porous medium having a plurality of pores therein and a plurality of holes extending therethrough, so as to allow passage of the ink.

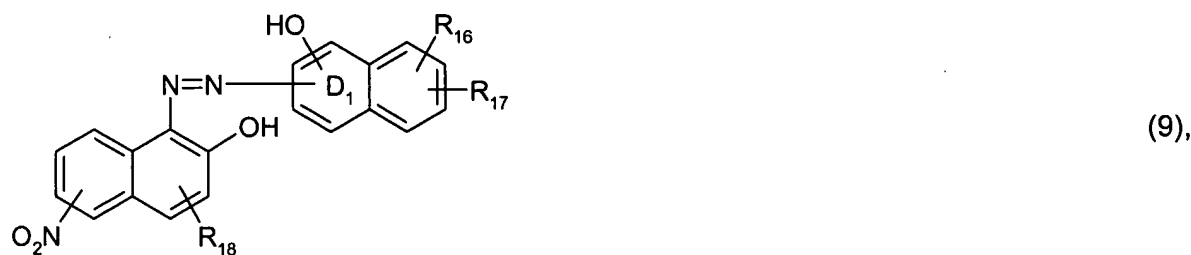
2. (original): A process according to claim 1, wherein

the aqueous ink comprises as the anionic acid dye:

disazo dyes of formula



1:2 metal complex dyes of formula



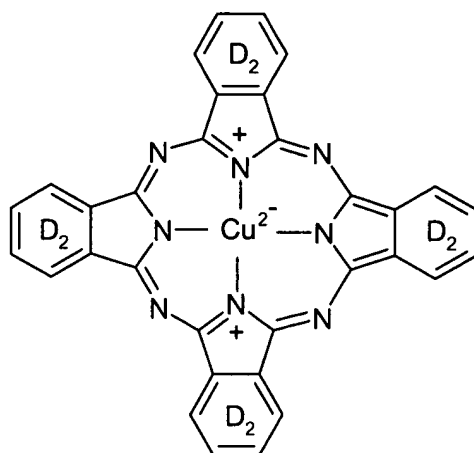
wherein

R<sub>16</sub> is hydrogen, C<sub>1</sub>-C<sub>4</sub>alkoxycarbonylamino, benzoylamino, C<sub>1</sub>-C<sub>4</sub>alkylsulfonylamino, phenylsulfonylamino, methylphenylsulfonylamino or halogen,

R<sub>17</sub> is hydrogen or halogen, and

$R_{18}$  is  $C_1$ - $C_4$ alkylsulfonyl,  $C_1$ - $C_4$ alkylaminosulfonyl, phenylazo, sulfo or  $-SO_2NH_2$ , the hydroxy group in the benzo ring  $D_1$  being bound in the o-position relative to the azo group on the benzo ring  $D_1$ ;

the copper complex of formula

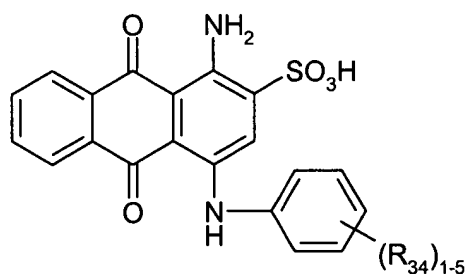


(22),

wherein

the benzo rings  $D_2$  are substituted by sulfo or by sulfonamido;

metal-free anionic anthraquinone dyes of formula

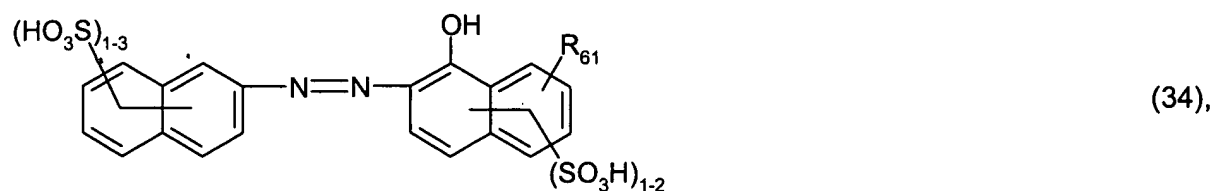


(26),

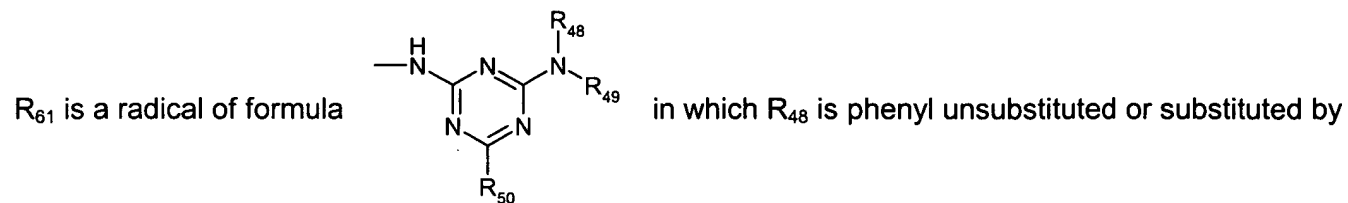
wherein

$(R_{34})_{1-5}$  denotes from 1 to 5 identical or different substituents selected from the group  $C_1$ - $C_4$ -alkyl unsubstituted or substituted by  $C_2$ - $C_4$ alkanoylamino (which may in turn be substituted in the alkyl group by halogen) or by benzoylamino;  $C_1$ - $C_4$ alkoxy;  $C_2$ - $C_4$ alkanoylamino and  $C_2$ - $C_4$ hydroxyalkylsulfamoyl;

monoazo dyes of formula

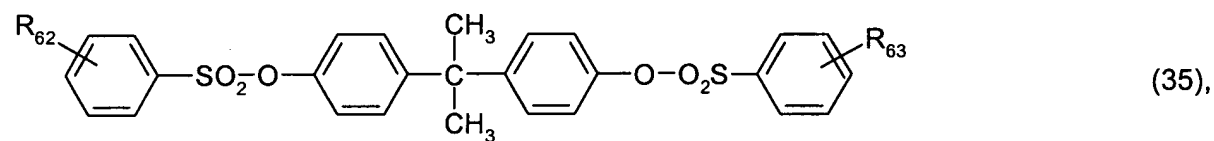


wherein



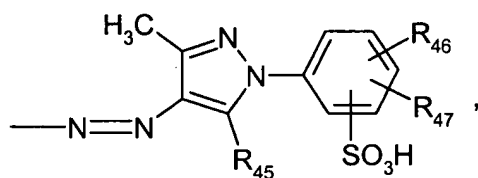
$C_1$ - $C_4$ alkyl,  $C_1$ - $C_4$ alkoxy, halogen or by sulfo,  $R_{49}$  is hydrogen or  $C_1$ - $C_4$ alkyl and  $R_{50}$  is halogen; and

disazo dyes of formula



wherein

$R_{62}$  and  $R_{63}$  are radicals of formula



wherein

$R_{45}$  is hydroxy or amino; and

$R_{46}$  and  $R_{47}$  are each independently of the other hydrogen,  $C_1$ - $C_4$ alkyl or halogen.

3. (currently amended): A process according to claim 1 or 2, wherein

the viscosity of the ink is from 6 to 14 mPa·s at 25°C, preferably from 8 to 10 mPa·s at 25°C.

4. (currently amended): A process according to ~~any one of claims 1 to 3~~ claim 1, wherein dipropylene glycol is used in an amount of from 25 to 45 % by weight, ~~preferably 30 to 45 % by weight~~ based on the total weight of the ink.

5. (currently amended): A process according to ~~any one of claims 1 to 4~~ claim 1, wherein  $\epsilon$ -caprolactam is used in an amount of from 3 to 15 % by weight, ~~preferably 5 to 15 % by weight~~ based on the total weight of the ink.

6. (currently amended): A process according to ~~any one of claims 1 to 5~~ claim 1, wherein printing is performed by means of an ink-jet printing device provided with at least one ink-jet print head which comprises

- a nozzle layer (a) defining a plurality of ejection nozzles,
- an ink supply layer (b) which is formed from a porous material having a multitude of small interconnected pores so as to allow passage of ink therethrough, said ink supply layer featuring a plurality of connecting bores from the rear surface to the front surface, each of said connecting bore being aligned so as to connect between a corresponding one of said ejection nozzles and
- a deflection layer (c), comprising a plurality of transducers related to said connecting bores for ejecting ink droplets out through the nozzles.

7. (currently amended): A process according to ~~any one of claims 1 to 6~~ claim 1, wherein printing is performed by means of an ink-jet printing device provided with at least one ink-jet print head which comprises

- a nozzle layer (a) defining a plurality of ejection nozzles,
- an ink supply layer (b) having a front surface associated with the nozzle layer and a rear surface associated with a cavity layer (d), said ink supply layer being formed with a plurality of connecting bores from said rear surface to said front surface, each connecting bore being aligned so as to connect between a corresponding one of said ink cavities and a corresponding one of said ejection nozzles, wherein said ink supply layer additionally features
  - (i) a pattern of ink distribution channels formed in said front surface, and
  - (ii) at least one ink inlet bore passing from said rear surface to said front surface and configured so as to be in direct fluid communication with at least part of said pattern of ink distribution channels, said pattern of ink distribution channels and said at least one ink inlet bore together defining part of an ink flow path which passes from said rear surface through said at least one ink inlet bore to said

pattern of ink distribution channels on said front surface, and through said porous material to said plurality of ink cavities,

- a deflection layer (c), comprising a plurality of transducers related to said connecting bores for ejecting ink droplets out through the nozzles.

8. (currently amended): A process according to ~~any one of claims 1 to 7~~ claim 1, wherein the transducer is a piezoelectric element.

9. (currently amended): A process according to ~~any one of claims 1 to 8~~ claim 1, wherein nitrogen-containing or hydroxyl-group-containing fibrous materials, ~~especially natural or synthetic polyamide materials,~~ are printed.

10. (currently amended): An aqueous printing ink for the ink-jet printing process, comprising

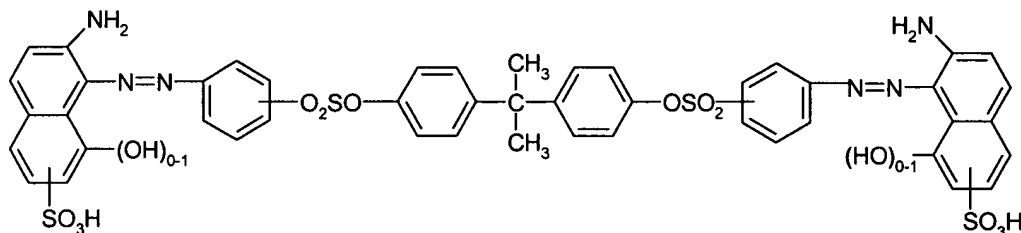
(I) at least one anionic acid dye, and

(II) dipropylene glycol,

said ink having a viscosity of from 5 to 20 mPa s at 25°C, wherein

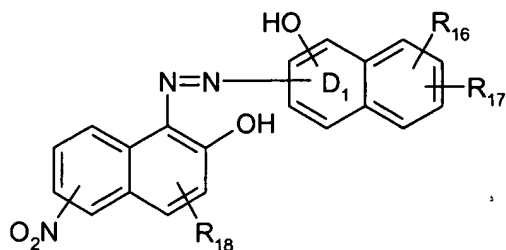
the aqueous ink comprises as the anionic acid dye:

disazo dyes of formula



(5);

1:2 metal complex dyes of formula



(9).

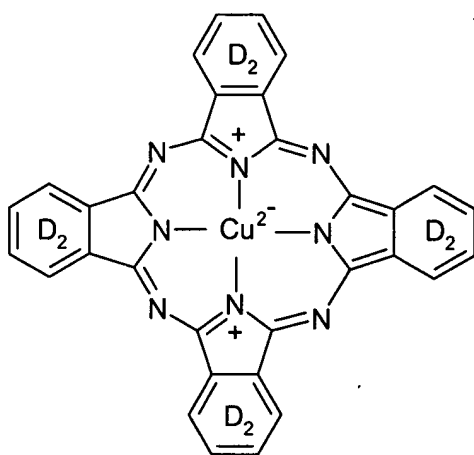
wherein

R<sub>16</sub> is hydrogen, C<sub>1</sub>-C<sub>4</sub>alkoxycarbonylamino, benzoylamino, C<sub>1</sub>-C<sub>4</sub>alkylsulfonylamino, phenylsulfonylamino, methylphenylsulfonylamino or halogen,

R<sub>17</sub> is hydrogen or halogen, and

R<sub>18</sub> is C<sub>1</sub>-C<sub>4</sub>alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub>alkylaminosulfonyl, phenylazo, sulfo or -SO<sub>2</sub>NH<sub>2</sub>, the hydroxy group in the benzo ring D<sub>1</sub> being bound in the o-position relative to the azo group on the benzo ring D<sub>1</sub>;

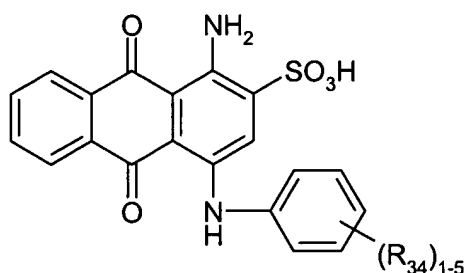
the copper complex of formula



wherein

the benzo rings D<sub>2</sub> are substituted by sulfo or by sulfonamido;

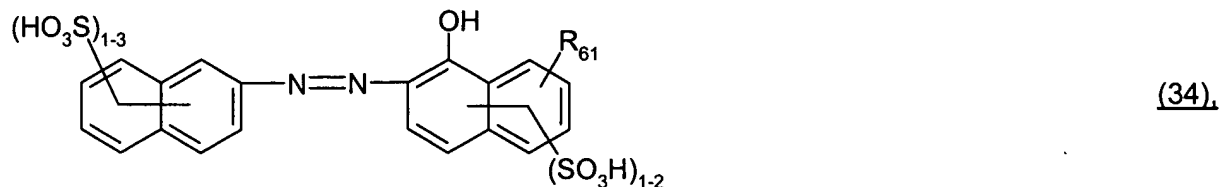
metal-free anionic anthraquinone dyes of formula



wherein

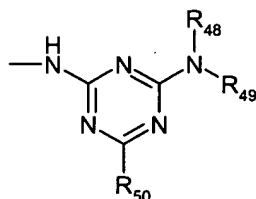
$(R_{34})_{1-5}$  denotes from 1 to 5 identical or different substituents selected from the group  $C_1$ - $C_4$ -alkyl unsubstituted or substituted by  $C_2$ - $C_4$ alkanoylamino (which may in turn be substituted in the alkyl group by halogen) or by benzoylamino;  $C_1$ - $C_4$ alkoxy;  $C_2$ - $C_4$ alkanoylamino and  $C_2$ - $C_4$ hydroxy-alkylsulfamoyl;

monoazo dyes of formula



wherein

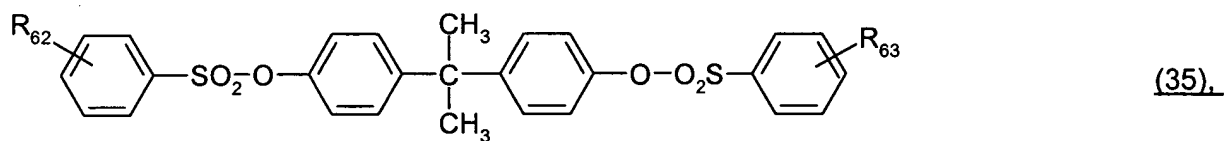
$R_{61}$  is a radical of formula



in which  $R_{48}$  is phenyl unsubstituted or substituted by

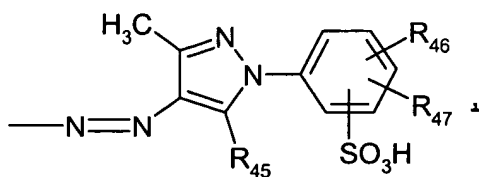
$C_1$ - $C_4$ alkyl,  $C_1$ - $C_4$ alkoxy, halogen or by sulfo,  $R_{49}$  is hydrogen or  $C_1$ - $C_4$ alkyl and  $R_{50}$  is halogen; and

disazo dyes of formula



wherein

$R_{62}$  and  $R_{63}$  are radicals of formula



wherein

R<sub>45</sub> is hydroxy or amino; and

R<sub>46</sub> and R<sub>47</sub> are each independently of the other hydrogen, C<sub>1</sub>-C<sub>4</sub>alkyl or halogen, and  
said ink has a viscosity of from 5 to 20 mPa s at 25°C.

11. (new): A process according to claim 1, wherein  
the viscosity of the ink is from 8 to 10 mPa·s at 25°C.

12. (new): A process according to claim 1, wherein  
dipropylene glycol is used in an amount of from 30 to 45 % by weight based on the total weight of  
the ink.

13. (new): A process according to claim 1, wherein  
ε-caprolactam is used in an amount of from 5 to 15 % by weight based on the total weight of the ink.

14. (new): A process according to claim 1, wherein natural or synthetic polyamide fiber materials are  
printed.